LIQUID CRYSTAL DISPLAY COLUMN CAPACITANCE CHARGING WITH A CURRENT SOURCE

ABSTRACT OF THE DISCLOSURE

A liquid crystal display (LCD) charges column capacitance with quantized charge injection from a current source. A digital-to-analog converter (DAC) injects amplitude and/or time duration controlled current pulses, using a current mirror, to charge each column capacitance to a desired voltage charge. The rate of charge is linear and fast, and no power is wasted as would be from quiescent current required in a voltage charging device used in a voltage injection column capacitance configuration. Variations in column capacitance may be compensated for by adding capacitance thereto or adjusting the amplitude and/or the pulse-width time of a current pulse being injected into the column capacitance.